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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/877,217	06/11/2001	Ikuya Tsurukawa	206470US-2	9559

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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER

ELKASSABGI, HEBA

ART UNIT PAPER NUMBER

2834

DATE MAILED: 02/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/877,217

Applicant(s)

TSURUKAWA ET AL.

Examiner

Heba Elkassabgi

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10, 11, 18, 19, 28 and 29 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 1-9, 12-17 and 20-27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Priority***

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in JP-2000-174571 and JP2000-174570 on June 09,2000. It is noted, however, that applicant has not filed a certified copy of the Japanese application as required by 35 U.S.C. 119(b).

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore in claim # 1,12,20, and 26, the “***first*** flat surface of the electrical parts mounting base board” and “a ***second*** flat surface of the electrical parts mounting base board;” must be shown or the feature(s) canceled from the claims. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for

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consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance. Discussed

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 10, 18, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art (which will be referred to as APA) and further in view of Kalagidis (US Patent 3777367).

APA disclose in pages 1-4 of the specification a DC motor comprising a rotor with a rotation shaft and rotor coils, a stator configured to apply a magnetic field to the rotor via magnetic poles of the stator opposing magnetic poles of the rotor. In addition, APA discloses a pair of electrode brushes in sliding contact with the contact electrode part of the commutator at respective sliding contact positions of a different distance from an

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axis of the rotation shaft and configured to supply electric power to the rotor coils through the commutator. Wherein the respective sliding contact positions of the electrode brushes with the contact electrode part are shifted in a radial direction. However, APA does not disclose electrical parts mounting baseboard and a commutator having a plane conductive layer.

Kalagidis disclose in the abstract a commutator ( C ) with a contact electrode part (B) formed with a plane conductive layer pattern (24-26) and connected tot the rotor coils (not shown see abstract), the contact electrode part (B) and the plane conductive layer pattern (24-26) are directly formed on one surface of the electrical parts mounting base board (commutator) in order to improve the method of forming an improved commutator for dynamoelectric machines.

Since APA and Kalagidis are from the same field of endeavor, the purpose disclosed by one inventor would have been recognized in the pertinent art of the other.

It would have been obvious to one of ordinary skill in the art to combine the DC motor structure of APA with Kalagidis's commutator in order to form an improved commutator for motors.

Claim 11, 19 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art (which will be referred to as APA) and Kalagidis (US Patent 3777367) as applied to claim 10 above, and further in view of Fassel et al. (US Patent 4514670).

APA and Kalagidis disclose the claimed subject matter except for at least one of the sliding brushes to detect a signal on the commutator for operation of the DC motor.

Fassel et al. Disclose in Figure 1 a DC motor (2) in which at least one rotation detecting brush (not shown) is in sliding contact with the contact electrode part (sensing- resistor 18) of the commutator and configured to detect a signal on the commutator indicative of an operation of the DC motor and that at least one sliding contact position of the detecting means arranged at a different distance in order to have a cycling time or period of the undulation to be reversibly proportioned to the speed of the motor.

Since APA, Kalagidis, and Fassel et al. are from the same field of endeavor, the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious to one of ordinary skill in the art to combine the DC motor structure of APA with Kalagidis's commutator in order to form an improved commutator for motors and Fassel et al. brush in sliding contact with the contact electrode part in order to have a cycle time or period of the undulation to be reversibly proportioned to the speed of the motor.

### ***Allowable Subject Matter***

Claims #1, 12, 20 and 26 are allowed over the prior art which does not disclose a flat disc-shaped electrical parts mounting base board fixed on the rotation shaft such that the rotation shaft perpendicularly intersect the electrical parts mounting base board

and such that a first surface of the electrical parts mounting base board faces the rotor. A commutator having a contact electrode part formed with a plane conductive layer pattern and connected to the rotor coils, the contact electrode part and the plane conductive layer pattern is directly formed on a second flat surface of the electrical parts mounting base board.

### ***Response to Arguments***


Applicant's arguments, filed 11/30/04, with respect to the rejections of claims 1-9, 12-17, and 20-27, have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, the arguments in regards to claims 10-11, 18-19, and 28-29 are not persuasive because APA does disclose on page 2 that brushes are shifted in the radial direction.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heba Elkassabgi whose telephone number is 571-272-2023. The examiner can normally be reached on Weekdays, 9:00 am to 7:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Heba El Kassabgi  
  
United States Patent and Trademark Office  
Patent Examiner- AU 2834  
Class 310- Electrical Generator/ Motor Structure  
Class 290- Prime Mover Dynamo Plants

  
**DARREN SCHUBERG**  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800